

# Uranyl Formate SDS

## SECTION 1: IDENTIFICATION

Product name: Uranyl Formate Monohydrate

Synonyms: Uranyl formate

Chemical formula:  $\text{UO}_2(\text{HCOO})_2 \cdot \text{H}_2\text{O}$

CAS number: 16984-59-1

Distributor: SPI Supplies / Structure Probe Inc.

206 Garfield Avenue

West Chester, PA 19380

Phone: 610-436-5400; 1-800-242-4774

Fax: 610-436-5755

Email: sales@2spi.com

SPI Catalog #'s: 02545-AA, 02545-AB

Recommended use: Laboratory chemical; research and manufacture of substances

Restrictions on use: For professional use only

### Supplier:

International Bio-Analytical Industries, Inc.

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Boca Raton, FL 33431 USA

Tel: +1 561-826-0061

Fax: +1 561-892-8450

### Emergency telephone:

INFOTRAC (USA & Canada): +1-800-535-5053

INFOTRAC (International): +1-352-323-3500

## SECTION 2: HAZARD(S) IDENTIFICATION

Classification (OSHA HCS 2012 / GHS):

Acute toxicity (oral), Category 2 (H300)

Acute toxicity (inhalation), Category 2 (H330)

Specific target organ toxicity – repeated exposure, Category 2 (H373)

Hazardous to the aquatic environment, acute, Category 2 (H401)

Hazardous to the aquatic environment, chronic, Category 2 (H411)

GHS Label Elements, Including Precautionary Statements

Pictogram



Signal word: Danger

Hazard statements:

H300 + H330 Fatal if swallowed or if inhaled.

H373 May cause damage to organs through prolonged or repeated exposure.

H411 Toxic to aquatic life with long-lasting effects.

Precautionary statements:

P260 Do not breathe dust, fumes, vapors, or mist.

P264 Wash thoroughly after handling.

P270 Do not eat, drink, or smoke when using this product.

P271 Use only outdoors or in a well-ventilated area.

P273 Avoid release to the environment.

P284 Wear respiratory protection.

P301 + P310 IF SWALLOWED: Immediately call a POISON CENTER or physician.

P304 + P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.

P330 Rinse mouth.

P391 Collect spillage.

P403 + P233 Store in a well-ventilated place. Keep container tightly closed.

P405 Store locked up.

P501 Dispose of contents and container in accordance with local, state, and federal regulations.

Hazards not otherwise classified: Radioactive material.

### **SECTION 3: COMPOSITION / INFORMATION ON INGREDIENTS**

Component: Uranyl formate monohydrate

CAS No.: 16984-59-1

Concentration: ≥ 99%

Classification: Acute Tox. 2 (Oral, Inhalation); STOT RE 2; Aquatic Acute 2; Aquatic Chronic 2

### **SECTION 4: FIRST-AID MEASURES**

General advice: Seek medical attention immediately. Show this SDS to medical personnel.

Inhalation: Move person to fresh air. If breathing has stopped, give artificial respiration. Seek immediate medical attention.

Skin contact: Wash immediately with soap and plenty of water. Remove contaminated clothing. Seek medical attention.

Eye contact: Rinse cautiously with water for at least 15 minutes. Remove contact lenses if present. Seek medical attention.

Ingestion: Rinse mouth. Do not induce vomiting. Never give anything by mouth to an unconscious person. Seek immediate medical attention.

Most important symptoms/effects: Severe toxicity; organ damage from repeated exposure; delayed symptoms possible.

### **SECTION 5: FIRE-FIGHTING MEASURES**

Suitable extinguishing media: Water spray, dry chemical, carbon dioxide, or alcohol-resistant foam.

Specific hazards: Decomposition may produce uranium oxides and carbon oxides.

Protective equipment: Firefighters must wear self-contained breathing apparatus and full protective gear.

### **SECTION 6: ACCIDENTAL RELEASE MEASURES**

Personal precautions: Evacuate area. Wear appropriate respiratory and protective equipment. Avoid dust generation.

Environmental precautions: Prevent release to drains, surface waters, and soil.

Cleanup methods: Collect material without creating dust. Place in sealed, labeled containers for disposal.

### **SECTION 7: HANDLING AND STORAGE**

Handling: Avoid contact with skin and eyes. Avoid inhalation of dust or aerosols. Use appropriate ventilation.

Storage: Store locked up in a tightly closed container in a dry, well-ventilated area. Protect from incompatible materials.

### **SECTION 8: EXPOSURE CONTROLS / PERSONAL PROTECTION**

Exposure limits (as uranium):

ACGIH TLV (TWA): 0.2 mg/m<sup>3</sup>

OSHA PEL (TWA): 0.05 mg/m<sup>3</sup>

NIOSH REL (TWA): 0.05 mg/m<sup>3</sup>

Engineering controls: Use local exhaust ventilation.

Personal protective equipment:

Eye protection: Safety glasses and face shield.

Skin protection: Chemical-resistant gloves (nitrile) and protective clothing.

Respiratory protection: NIOSH-approved full-face respirator with P100/N100 cartridges or supplied-air respirator.

Full and Splash Contact

Material: Nitrile rubber.

Minimum layer thickness: 0.11 mm.

Break-through time: 480 min.

### **SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES**

Appearance: Yellow crystalline solid

Molecular weight: 378.08 g/mol

Density: ~2.89 g/cm<sup>3</sup>

Solubility: Soluble in water

Decomposition temperature: ~275 °C

Odor: Odorless

## **SECTION 10: STABILITY AND REACTIVITY**

Stability: Stable under recommended storage conditions.

Incompatible materials: Strong oxidizing agents.

Hazardous decomposition products: Uranium oxides, carbon oxides.

## **SECTION 11: TOXICOLOGICAL INFORMATION**

Acute toxicity: LD<sub>50</sub> (oral, rat): ~204 mg/kg

Chronic effects: May cause organ damage through prolonged or repeated exposure. Contains radioactive uranium compound.

Carcinogenicity: Not listed by IARC, NTP, or OSHA; radioactive hazard present.

## **SECTION 12: ECOLOGICAL INFORMATION**

Toxic to aquatic organisms with long-lasting effects. Avoid environmental release.

## **SECTION 13: DISPOSAL CONSIDERATIONS**

Dispose of contents and container through a licensed hazardous and radioactive waste disposal contractor in accordance with applicable regulations.

## **SECTION 14: TRANSPORT INFORMATION**

Transport classification depends on quantity, form, and regulatory jurisdiction. Material may be regulated as radioactive and toxic. Determine shipping requirements prior to transport.

Proper Shipping Name:

Hazard Class:

UN/ID Number: To be determined on a case-by-case basis.

Special Information:

Packing Group:

Due to the various quantities and combinations of materials being shipped at one time, the information above must be determined based on the characteristics of the specific shipment.

## **SECTION 15: REGULATORY INFORMATION**

OSHA Hazard Communication: Hazardous

SARA 311/312: Acute and chronic health hazard

State Right-to-Know: Listed (MA, PA, NJ)

## **SECTION 16: OTHER INFORMATION**

HMIS: Health 3\*, Flammability 0, Physical Hazard 0

NFPA: Health 4, Fire 0, Reactivity 0

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